RESULTS

In this study, 201 sera from apparently healthy individuals, 34 (16.9%) of them were females and 167 (83.1%) were males, were tested for :

a) HCV antibody by ELISA technique :

Out of 201 sera, 57 (28.4%) were positive for HCV antibody. And 144 (71.6%) were negative.

b) HBsAg by ELISA technique :

Out of 201 sera, 8 (4%) were positive for HBsAg, and 139 (96%) were negative. None of the positive HBsAg were positive for HCV antibody.

c) HCV RNA by PCR technique :

All sera that were positive for HCV antibody (57 sera), were tested for HCV RNA. From 144 sera, that were negative for HCV antibody, 18 sera were randomly selected to be tested for HCV RNA.

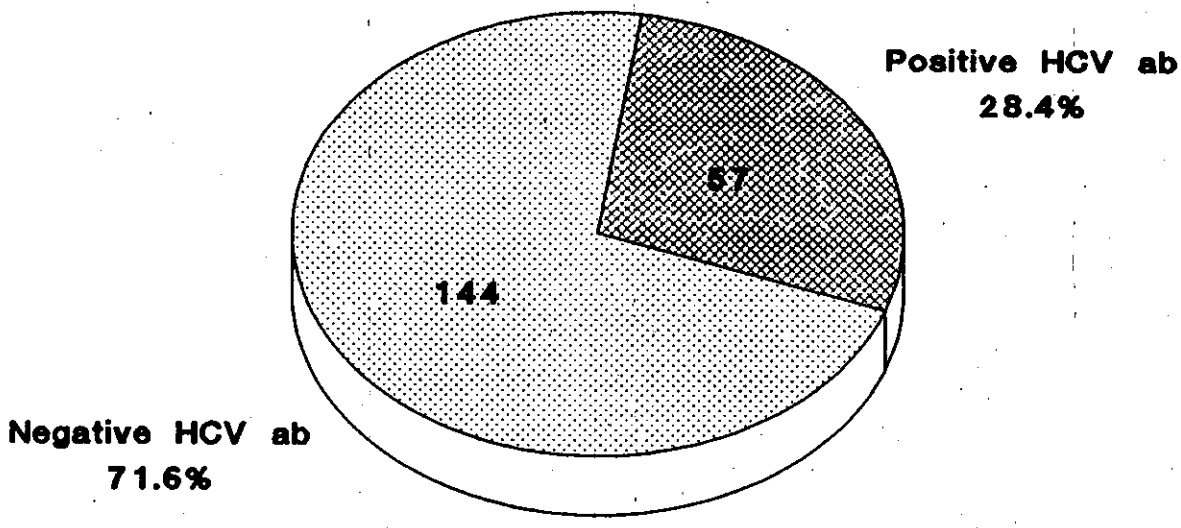
Out of these 75 sera, 30 sera (40%) were positive for HCV RNA and 45 sera (60%) were negative for HCV RNA. Prevalence of HCV RNA among positive and negative HCV antibody were (49.1%) and (11.1%) respectively.

d) HCV genotyping by INNO-LiPA II HCV technique :

Genotyping were done for 20 sera randomly selected from the 30 positive sera for HCV RNA.

Out of the 20 sera, 12 (60%) were type 4,7 sera (35%) were type 4 with its different subtypes, one serum (5%) was mixed type 4a and type 1a.

Fig.(1): Prevalence of HCV ab in the studied group.



A) Results of HCV antibody tested by ELISA

1- Results according to sex :-

Table (1) **:** prevalence of HCV antibody among the studied 201 apparently healthy individuals according to sex .

HCV ab / *Sex*	*HCV ab +ve Individuals*		*HCVab-ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Males	50	29.9	117	70.1	167	100.0
- Females	7	20.6	27	79.4	34	100.0
Total	57	28.4	144	71.6	201	100.0

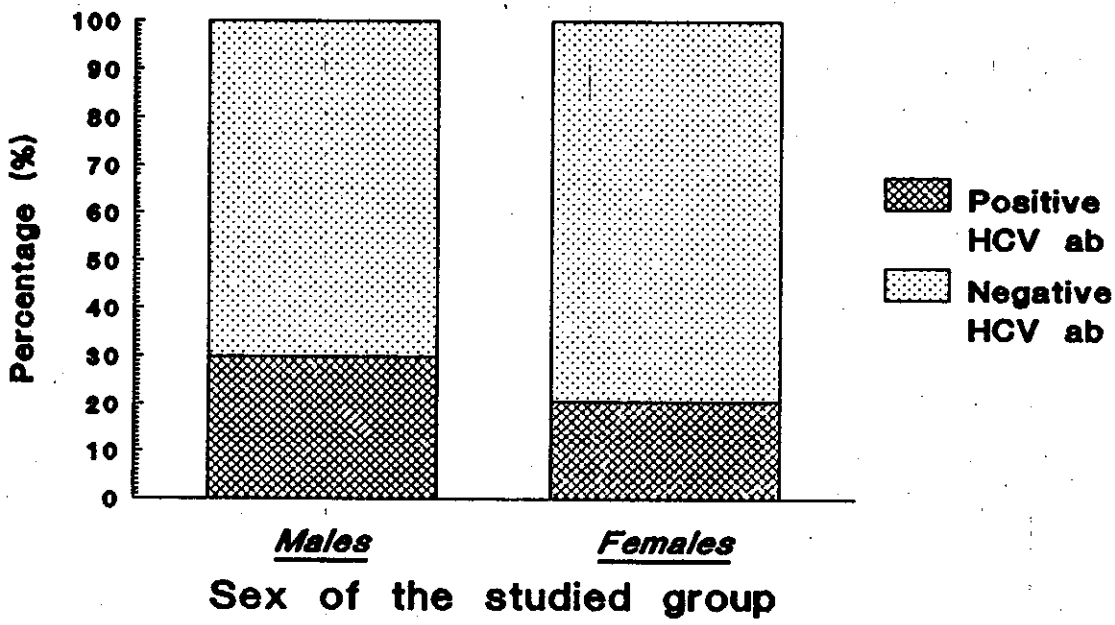
$X^2 = 1.0216$ $P > 0.05$

Out of 201 apparently healthy individuals, the present study revealed that :

- 167 individuals were males and their results; 50 (29.1%) were positive for HCV antibody and 117 (70.2%) were negative.
- 34 individuals were females and their results; 7 (20.6%) were positive for HCV antibody and 27 (79.4%) were negative.

The difference in the presence of HCV antibody according to sex was statistically insignificant ($P > 0.05$).

Fig.(2): Prevalence of HCV ab in the studied group according to sex.



2- Results according to age :

Table (2) : prevalence of HCV antibody among the studied 201 apparently healthy individuals according to age .

HCV ab / Age (ys)	HCVab+ve Individuals No	%	HCV ab -ve Individuals No	%	Total No	%
* < 30 ys .	20	18.5	88	81.5	108	100.0
* 30 - 45 ys.	33	39.2	51	60.8	84	100.0
* > 45 ys.	4	44.4	5	55.6	9	100.0
Total	57	28.4	144	71.6	201	100.0

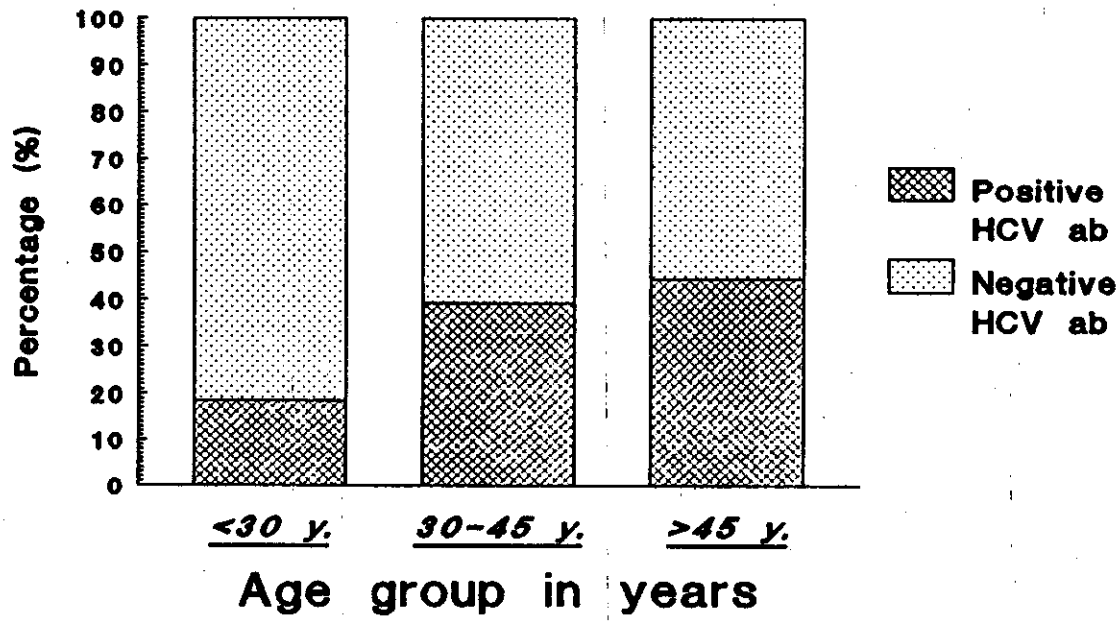
$X^2 = 9.239$ $P < 0.05$

Out of 201 apparently healthy individuals, the present study revealed that ;

- 108 individuals were less than 30 years and their results; 20 (18.5%) were positive for HCV antibody and 88 (81.5%) were negative .
- 84 individuals were between 30 and 45 years and their results; 33 (39.2%) were positive for HCV antibody and 51 (60.8%) were negative.
- 9 individuals were above 45 years and their results; 4 (44.4%) were positive for HCV antibody and 5 (55.6%) were negative.

The difference in the presence of HCV antibody according to the different age groups was statistically significant ($P < 0.05$).

Fig.(3): Prevalence of HCV ab in the studied group according to age.



3- Results according to residence :

Table (3) : HCV antibody test reactivity versus residence among the studied 201 apparently healthy individuals.

HCV ab / *Residence*	*HCVab+ve Individuals*		*HCV ab -ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Urban	13	22.0	46	78.0	59	100.0
- Rural	44	31.0	98	69.0	142	100.0
Total	57	28.7	144	71.6	201	100.0

$X^2 = 1.644$ $P > 0.05$

Out of 201 apparently healthy individuals, the present study revealed that :

- 59 individuals were from urban areas and their results; 13 (22%) were positive for HCV antibody and 46 (78%) were negative.
- 142 individuals were from rural areas and their results; 44 (31%) were positive for HCV antibdoy and 98 (69%) were negative.

The difference in the presence of HCV antibody according to residence was statistically insignificant ($P > 0.05$).

4- Results according to site of practising shaving :

Table (4): HCV antibody test reactivity versus the site of practising shaving among the studied apparently healthy males .

HCV ab / *site of practising shaving*	*HCV ab +ve Individuals*		*HCV ab -ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- At home	22	27.2	59	72.8	81	100.0
- At barber's	18	33.3	36	66.7	54	100.0
- Both	10	31.3	22	68.7	32	100.0
Total	50	29.9	117	70.1	167	100.0

$X^2 = 0.123$ $P > 0.05$

Out of 201 apparently healthy individuals, there were 167 males and the present study revealed that :

- 81 males were practising shaving at home and their results; 22 (27.2%) were positive for HCV antibody and 59 (72.8%) were negative.
- 54 males were practising shaving at barber's and their results; 18 (33.3%) were positive for HCV antibody and 36 (66.7%) were negative.
- 32 males were practising shaving both at home and barber's and their results; 10 (31.3%) were positive for HCV antibody and 22 (68.7%) were negative.

The difference in the presence of HCV antibody according to site of practising shaving was statistically insignificant ($P > 0.05$).

5 - Results according to history of interventions during labuor :

Table (5): HCV antibody test reactivity versus history of interventions during labour among the studied apparently healthy females.

HCV ab / Parameters	HCV ab+ve (n = 7) No	%	HCV ab -ve (n = 27) No	%	Z	P
- Abortion	2	28.6	8	29.6	0.055	>0.05
- Normal labour	5	71.4	15	55.6	0.760	>0.05
- Cesarean section	1	14.3	3	11.1	0.232	>0.05
- Episiotomy	3	42.9	11	40.7	0.101	>0.05

Out of 201 apparently healthy individuals, there were 34 females, and the present study revealed that :

- 7 females were positive for HCV antibody out of them; 2 (28.6%) had a history of abortion, 5 (71.4%) had a history normal labour, only one (14.3%) had a history of Cesarean section, and 3 (42.9%) had a history of episiotomy .
- 27 females were negative for HCV antibody; out of them, 8 (29.6%) had a history of abortion, 15 (55.6%) had a history of normal labour, 3 (11.1%) had a history of Cesarean section and 11 (40.7%) had a history of episiotomy.

The difference in the presence of HCV antibody according to history of different interventions during labours, was statistically insignificant (P > 0.05).

6- Results according to type of syringe used :

Table (6): HCV antibody test reactivity versus type of syringe used among the studied 201 apparently healthy individuals.

HCV ab / *Type of syringe*	*HCV ab+ve Individuals*		*HCV ab -ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Disposable	11	15.5	60	84.5	71	100.0
- Both non disposable & disposable	46	35.4	84	64.6	130	100.0
Total	57	28.4	144	71.6	201	100.0

$X^2 = 8.943$ $P < 0.05$

Out of 201 apparently healthy individuals, the present study revealed that :

- 71 individuals who had used disposable syringes only, and their results; 11 (15.5%) were positive HCV antibody and 60 (84.5%) were negative.
- 130 individuals who had used both disposable and non disposable syringes, and their results, 46 (35.4%) were positive for HCV antibody and 84 (64.6%) were negative.

The difference in the presence of HCV antibody according to type of syringe used was statistically significant ($P < 0.05$).

7- Results according to history of dental manoeuvres :

Table (7): HCV antibody test reactivity versus history of dental manoeuvres among the 201 studied apparently healthy individuals.

HCV ab / *dental manoeuvres*	*HCV ab+ve Individuals*		*HCV ab -ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Present	35	38.9	55	61.1	90	100.0
- Absent	22	19.8	89	80.2	111	100.0
Total	57	28.4	144	71.6	201	100.0

$X^2 = 8.896$ $P < 0.05$

Out of 201 apparently healthy individuals, the present study revealed that :

- 90 individuals had a history of dental manoeuvres and their results; 35 (38.9%) were positive for HCV antibody and 55 (61.1%) were negative.
- 111 individuals who had no history of dental manoeuvres and their results; 22 (19.8%) were positive for HCV antibody and 89 (80.2%) were negative.

The difference in the presence of HCV antibody according to history of dental manoeuvres was statistically significant ($P \leq 0.05$).

8- Results according to history of blood transfusion :

Table (8): HCV antibody test reactivity versus history of blood transfusion among the studied 201 apparently healthy individuals.

HCV ab / *Blood transfusion*	*HCV ab +ve individuals*		*HCV ab - ve individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Present	3	37.5	5	62.5	8	100.0
- Absent	54	28.0	139	72.0	193	100.0
Total	57	28.4	144	71.6	201	100.0

$X^2 = 0.343$ $P > 0.05$

Out of 201 apparently healthy individuals, the present study revealed that :

- 8 individuals who had history of blood transfusion and their results; 3 (37.5%) were positive for HCV antibody and 5 (62.5%) were negative.
- 139 had no history of blood transfusion and their results; 54 (28%), were positive for Hcv antibody and 139 (72%) were negative.

The difference in the presence of HCV antibody, according to history of blood transfusion and these who had not history of blood transfusion was statistically insignificant ($P > 0.05$).

9- Results according to history of Schistosomiasis :

Table (9): HCV antibody test reactivity versus history of Schistosomiasis among the 201 studied apparently healthy individuals.

HCVab / Schistosomiasis	HCV ab +ve Individuals		HCVab -ve Individuals		Total	
	No	*%*	*No*	*%*	*No*	*%*
- Present	42	35.0	78	65.0	120	100.0
- Absent	15	18.5	66	81.6	81	100.0
Total	57	28.4	144	71.6	201	100.0

$X^2 = 6.466$ $P < 0.05$

Out of 201 apparently healthy individuals, th present study revealed that:

- 120 individuls had history of Schistosmiasis and their results; 42 (35%) were positive for HCV antibody and 78 (65%) were negative .
- 81 individuals had no history of Schistosomiasis and their results; 15 (18.5%) were positive for HCV antibody and 66 (81.5%) were negative.

The difference in the presence of HCV antibody according to history of Schistosomiasis was statistically significant ($P < 0.05$).

10- Results according to detection of Schistosma antibody by IHA test :

Table (10): HCV antibody test reactivity versus Schistosama antibody results by IHA test among the studied 201 apparently healthy individuals.

HCV ab / *IHA test*	*HCV ab+ve Individuals*		*HCV ab -ve individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Positive	23	35.4	42	64.6	65	100.0
- Negative	34	25.0	102	75.0	136	100.0
Total	57	28.4	144	71.6	201	100.0

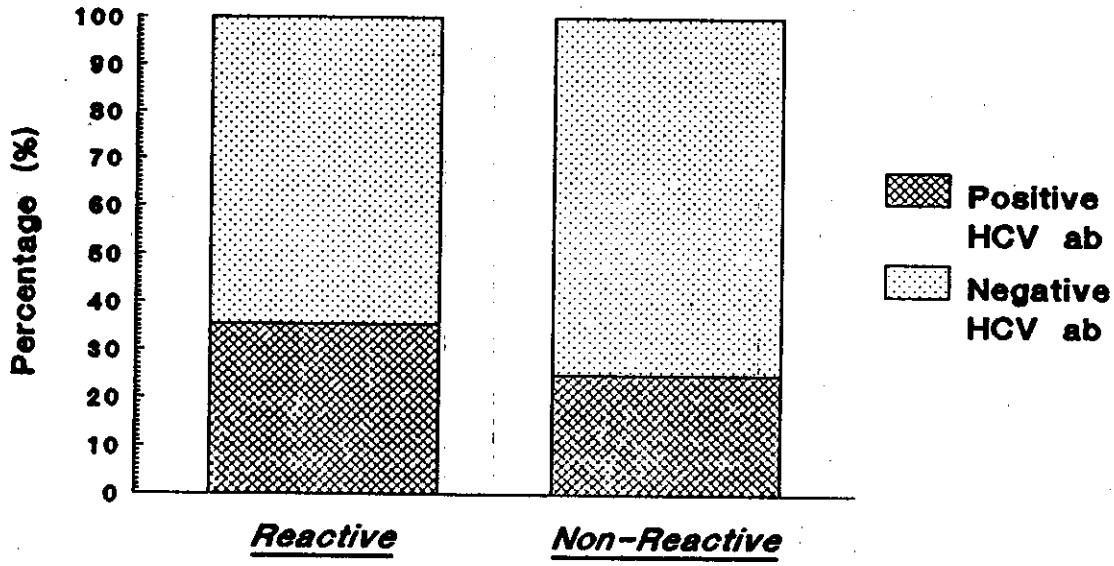
$X^2 = 1.524$ $P > 0.05$

Out of 201 sera of apparently healthy individuals, the present study revealed that :

- 65 sera were reactive Schistosoma antibody, and 23 (35.4%) of them were positive for HCV antibody and 42 (46.6%) were negative.
- 136 sera were non reactive for Schistosoma antibody, and 34 (25%) of them were positive for HCV antibody and 102 (75%) were negative.

The difference in the presence of HCV antibody according to Schistosoma antibody reults by IHA test was statistically insignificant (P > 0.05).

Fig(4):Prevalence of HCV ab in the stud. group according to Schistosoma ab.



11- Results according to determination of AST levels :-

Table (11): HCV antibody test reactivity versus the results of AST levels among the studied 201 apparently healthy individuals.

HCV ab / AST	HCV ab+ve Individuals		HCV ab-ve Individuals		Total	
	No	%	No	%	No	%
Normal	43	25.4	126	74.6	169	100.0
Elevated	7	36.8	12	63.2	19	100.0
Donbal elevated	7	35.8	6	46.2	13	100.0
Total	57	28.4	144	71.6	201	100.0

$X^2 = 5.537$ $P > 0.05$

Out of 201 sera of apparently healthy individuals, the present study revealed that :

- 169 sera were normal AST levels, and 43 (25.4%) of them were positive for HCV antibody .
- 19 sera were elevated AST levels, and 7 (36.8%) of them were positive for HCV antibody.
- 13 sera were double elevated AST levels, and 7 (53.8%) of them were positive for HCV antibody.

The difference in the presence HCV antibody according to AST levels was statistically insignificant ($P > 0.05$).

12 - Results according to determination of ALT levels :-

Table (12): HCV antibody test reactivity versus the results of ALT levels among the studied 201 apparently healthy individuals.

HCV ab / *ALT*	*HCV ab+ve Individuals* NO	%	*HCV ab-ve Individuals* NO	%	*Total* NO	%
Normal	36	23.7	116	76.3	152	100.0
elevated	4	15.4	22	84.6	26	100.0
double elevated	17	73.9	6	26.1	23	100.0
Total	57	28.4	144	71.6	201	100.0

$X^2 = 27.282$ $P < 0.05$

Out of 201 sera of apparently healthy individuals, the present study revealed that :

- 152 sear were normal ALT levels, and 36 (23.7%) of them were positive for HCVantibody .
- 26 sera were elevated ALT levels, and 4 (15.4%) of them were positive for HCV antibody .
- 17 sera were double elevated ALT levels, and 17 (73.9%) of them were positive for HCV antibody.

The difference in the presence of HCV-antibody according to ALT levels was statistically significant. ($P < 0.05$).

13- Results according to elevation of both AST & ALT levels :

Table (13) : HCV antibody test reactivity versus both AST and ALT levels among the studied 201 apparently healthy individuals.

HCV ab / *AST & ALT*	*HCV ab+ve Individuals*		*HCV ab-ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
Normal both enzymes	28	21.2	104	78.8	132	100.0
Elevated AST only	8	40.0	12	60.0	20	100.0
Elevated ALT only	15	40.5	22	59.5	37	100.0
Elevated both enzymes	6	50	6	50.0	12	100.0
Total	57	28.4	144	71.6	201	100.0

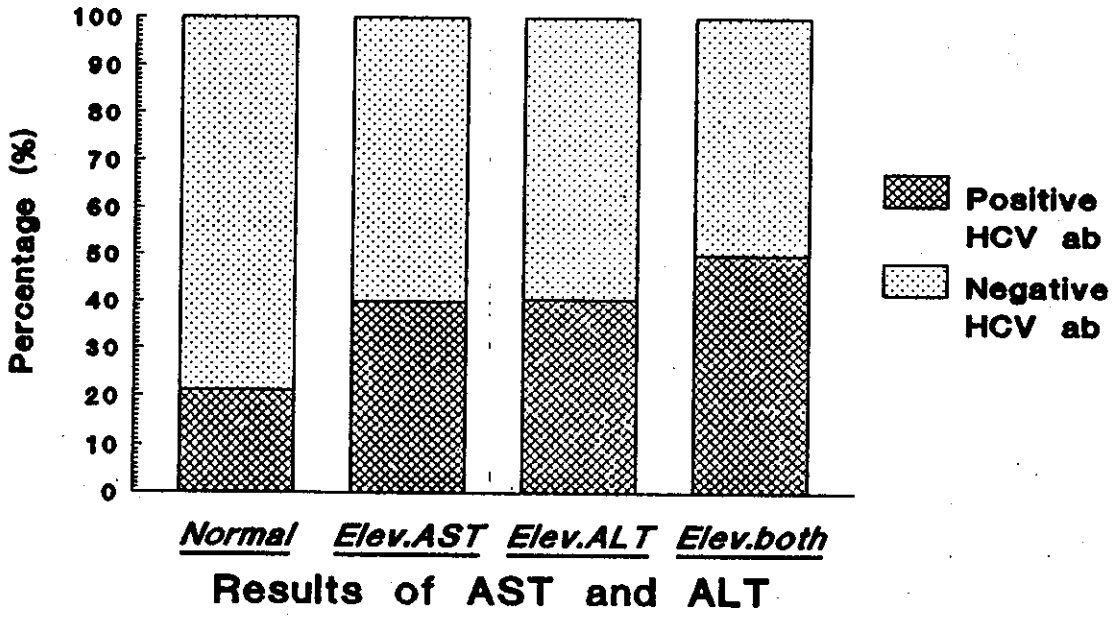
$X^2 = 10.121$ $P < 0.05$

Out of the 201 sera of apparently healthy individuals, the present study revealed that :

- 132 sera were normal levels for both ALT and AST, and 28 (21.2%) of them were positive for HCV antibody .
- 20 sera were elevated AST only, and 8 (40%) of them were positive for HCV antibody .
- 37 sera were elevated ALT only, and 15 (40.5%) of them were positive for HCV antibody .
- 12 sera were elevated both enzymes, and 6 (50.0%) of them were positive for HCV antibody.

The difference in the presence of HCV antibody according to both AST and ALT levels was significant ($P < 0.05$).

Fig(5):Prevalence of HCV ab in the stud. group according to AST & ALT levels.



B) Results of HBsAg by ELISA :

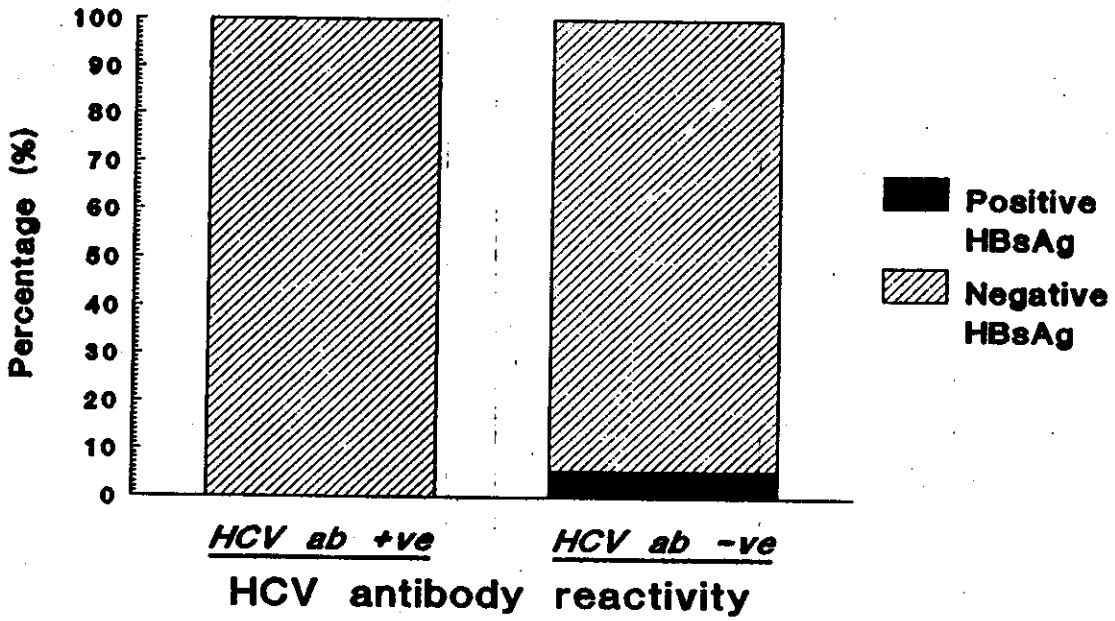
Table (14): Prevalence of HBsAg among the studied 201 apparently healthy individual in correlation to HCV antibody reactivity :

HCV antibody / *HBsAg*	*HCV ab +ve individuals*		*HCV ab -ve individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Positive	0	0.0	8	5.6	8	4.0
- Negative	57	100.0	136	94.4	193	96.0
Total	57	100.0	144	100.0	201	100.0

Out of 201 apparently healthy individuals, 8 (4%) were positive for HBsAg.

Out of 57 who were positive for HCV antibody, (o.o%) were positive for HBsAg and out of 144 who were negative for HCV antibody, 8 (5.6%) were positive for HBsAg .

Fig.(6): Prevalence of HBsAg in the studied group in relation to HCV ab.



C) Results of HCV RNA by PCR :-

Table (15): Prevalence of HCV RNA according to HCV antibody in the studied group.

HCV RNA / HCVab	HCV RNA+ve Individuals		HCV RNA-ve Individuals		Total	
	No	%	No	%	No	%
- Positive	28	49.1	29	50.9	57	100.0
- Negative	2	11.1	16	88.9	18	100.0
Total	30	40	54	60	75	100.0

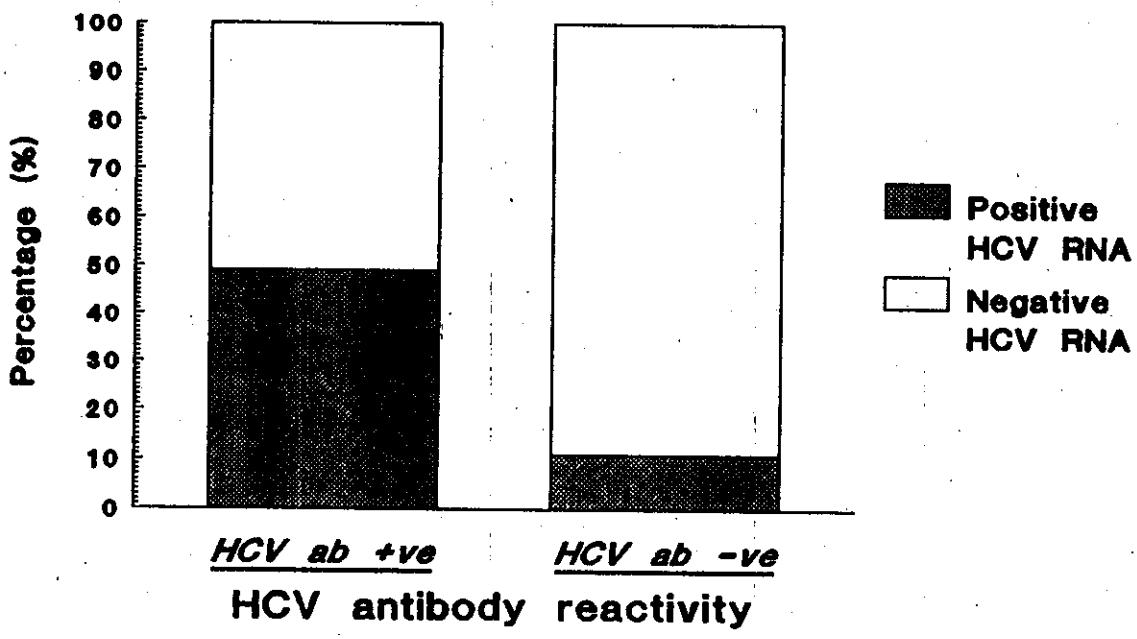
$X^2 = 1.236$ $P > 0.05$

Out of 75 sera of the studied group (57 positive for HCV antibody and 18 negative for HCV antibody were randomly selected out of 144 negative HCV antibody individuals), the present study revealed that :

- 57 sera were positive for HCV antibody, and 28 (49.1%) of them were positive for HCV RNA.
- 18 sera were negative for HCV antibody and 2 (11.1%) of them were positive for HCV RNA.

The difference in the presence of HCV RNA according to HCV antibody in the studied group, was statistically insignificant.

Fig(7):Prevalence of HCV RNA in relation to HCV ab in the studied group



1- Results according to sex :

Table (16): Prevalence of HCV RNA in the studied group according to sex .

HCV RNA / *Sex*	*HCV RNA+ve Individuals*		*HCV RNA -ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Males	26	41.9	36	58.1	62	100.0
- Females	4	30.8	9	69.2	13	100.0
Total	30	40.0	45	60.0	75	100.0

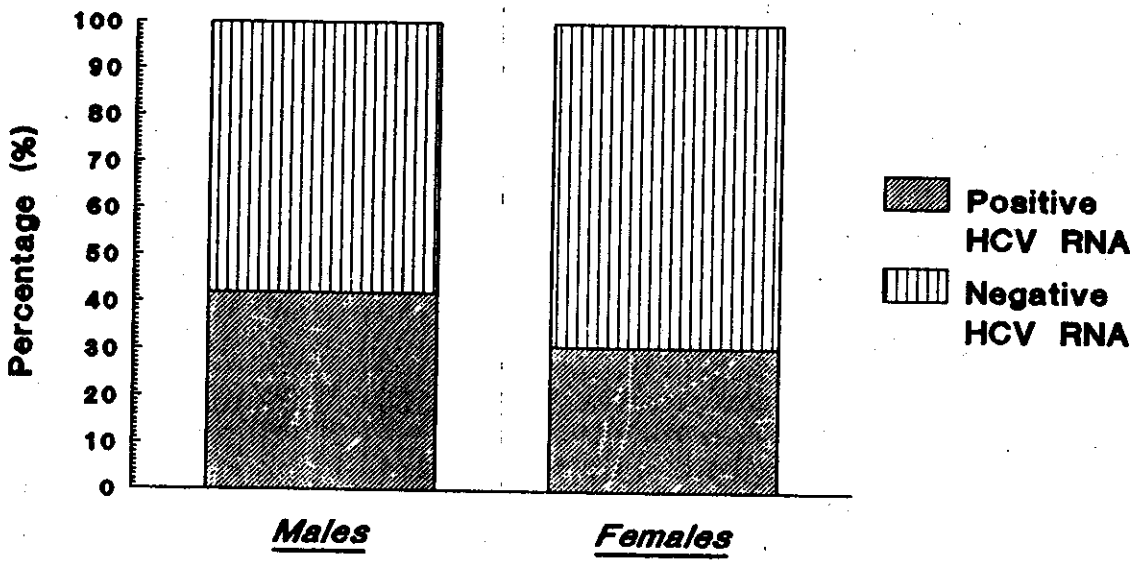
$X^2 = 0.558$ $P > 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 62 individuals were males , and their results ; 26 (41.9%) were positive for HCV RNA and 36 (58.1%) were negative.
- 13 individuals were females and their results; 4 (30.8%) were positive for HCV RNA and 9 (69.2%) were negative.

The difference in the presence of HCV RNA according to sex, was statistically insignificant (P>0.05).

Fig.(8): Prevalence of HCV RNA in the studied group according to sex.



2- Results according to age :

Table (17): Prevalence of HCV RNA in the studied group according to age.

HCV RNA / Age (ys)	HCV RNA+ve Individuals		HCV RNA-ve Individuals		Total	
	No	%	No	%	No	%
* < 30 ys	6	25.0	18	75.0	24	100.0
* 30-45 ys	21	46.7	24	53.3	45	100.0
* > 45 ys	3	50.0	3	50.0	6	100.0
Total	30	40.0	45	60.0	75	100.0

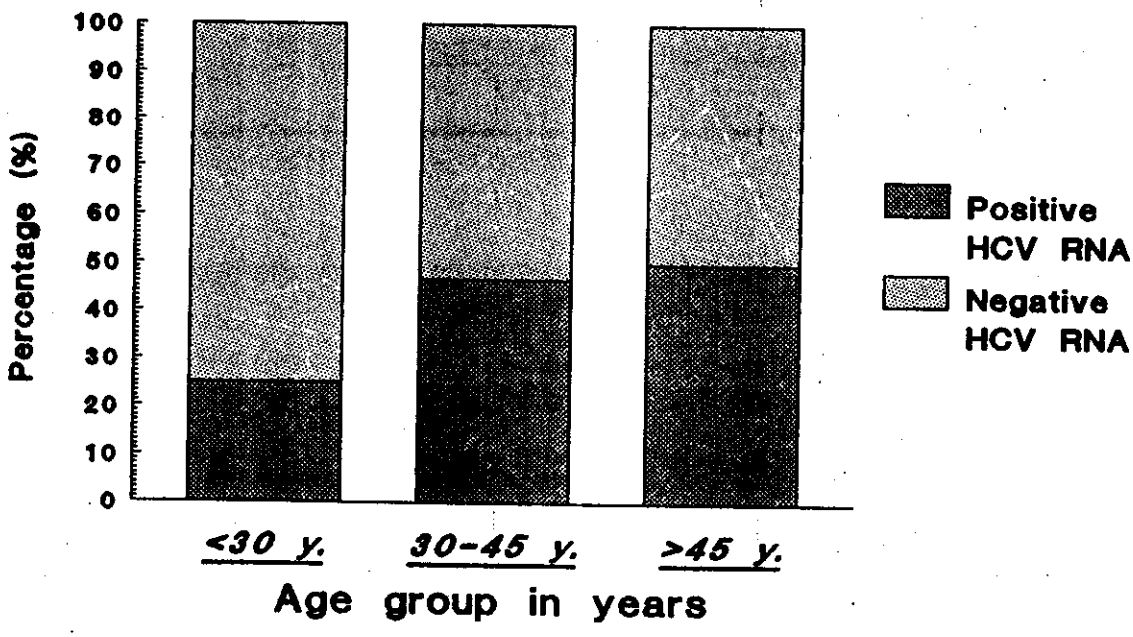
$X^2 = 6.087$ $P < 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 24 individuals were less than 30 years and their results; 6 (25%) were positive for HCV RNA and 18 (75%) were negative .
- 45 individuals were between 30 and 45 years and their results; 21 (46.7%) were positive for HCV RNA and 24 (53.3%) were negative.
- 6 individuals were above 45 years and their results; 3 (50%) were positive for HCV RNA and 3 (50%) were negative.

The difference in the presence of HCV RNA according to the different groups of age, was statistically significant ($P < 0.05$).

Fig.(9): Prevalence of HCV RNA in the studied group according to age.



3- Results according to residence :-

Table (18): HCV RNA test reactivity versus residence in the studied group.

HCV RNA / Residence	HCV RNA+ve Individuals		HCV RNA-ve Individuals		Total	
	No	%	No	%	No	%
- Urban	6	27.3	16	72.7	22	100.0
- Rural	24	45.3	29	54.7	53	100.0
Total	30	40.0	45	60.0	75	100

$X^2 = 2.101$ $P > 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 22 individuals were from urban areas and their results; 6 (27.3%) were positive for HCV RNA and 16 (72.7%) were negative .
- 53 individuals were from rural areas and their results; 24 (45.3 %) were positive for HCV RNA and 29 (54.7%) were negative.

The difference in the presence of HCV RNA according to residence, was statistically insignificant (P >0.05).

4- Results according to site of practising shaving :-

Table (19): HCV RNA test reactivity versus the site of practising shaving in the studied group .

HCV RNA / *Site of practising shaving*	*HCV RNA+ve Individuals*		*HCV RNA -ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- At home	12	37.5	20	62.5	32	100.0
- At barber's	10	50.0	10	50.0	20	100.0
- Both	4	40.0	6	60.0	10	100.0
Total	26	41.9	36	58.1	62	100.0

$X^2 = 1.766$ $P > 0.05$

Out of 75 individuals (the studied group) , there were 62 males and the present study revealed that :

- 32 males were practising shaving at home and their results; 12 (37.5%) were positive for HCV RNA and 20 (62.5%) were negative .
- 20 males were practising shaving at barber's and their results; 10 (50%) were positive for HCV RNA and 10 (50%) were negative .
- 10 males were practising shaving both at home and at the barber's and their results; 4 (40%) were positive for HCV RNA and 6 (60%) were negative .

The difference in the presence of HCV RNA according to site of practising shaving, was statistically insignificant ($P > 0.05$) .

5 - Results according to interventions during labour :-

Table (20): HCV RNA test reactivity versus interventions during labour in the studied group

HCV RNA / *Parameters*	*HCV RNA+ve (N=4)*		*HCV RNA-ve (N=9)*		*Z*	*P*
	No	*%*	*No*	*%*		
- Abortion	1	25.0	3	33.3	0.986	>0.05
- Normal labour	4	100.0	5	55.6	0.101	>0.05
-Cesarean section	0	0.0	4	44.4	1.084	>0.05
- Episiotomy	1	25.0	5	55.6	1.622	>0.05

Out of 75 individuals (the studied group), the present study revealed that :

- 4 females were positive for HCV RNA, out of them; only one (25%) had a history of abortion, also, one (25%) had a history of episiotomy and 4 (100 %) had history of normal labour .None of them had history of Cesarean section .
- 9 females were negative for HCV RNA, out of them; 3 (33.3%) had history of abortion, 5 (55.6%) had history of normal labour, 4 (44.4%) had history of Cesarean section and 5 (55.6%) had history of episiotomy.

The difference in the presence of HCV RNA according to history of different interventions during labour, was statistically insignificant (P > 0.05) .

6- Results according to type of syringe used :-

Table (21): HCV RNA test reactivity versus the type of syringe used in the studied group .

HCV RNA / Type of syringe	HCV RNA +ve Individuals		HCV RNA-ve Individuals		Total	
	No	%	No	%	No	%
- Disposable	4	15.4	22	84.6	26	100.0
- Non -disposable & disposable	26	53.1	23	46.9	49	100.0
Total	30	40.0	45	60.0	75	100.0

$X^2 = 8.539$ $P < 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 26 individuals who had used disposable syringes only, and their results; 4 (15.4%) were positive for HCV RNA and 22 (84.6%) were negative.
- 49 individuals who had used both disposable and non disposable syringes, and their results; 26 (53.1%) were positive for HCV RNA and 23 (46.9%) were negative .

The difference in the presence of HCV RNA according to type of syringes used, was statistically significant ($P< 0.05$)

7 - Results According to dental manoeuvres :

Table (22): HCV RNA test reactivity versus the history of dental manoeuvres in the studied group .

HCV RNA / *Dental maneuvers*	*HCV RNA+ve Individuals*		*HCV RNA-ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Present	18	54.5	15	45.5	33	100.0
- Absent	12	28.6	30	71.4	42	100.0
Total	30	40.0	45	60.0	75	100.0

$X^2 = 5.195$ $P < 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 33 individuals had history of dental manoeuvres and their results; 18 (54.5%) were positive for HCV RNA and 15 (45.5%) were negative.
- 42 individuals had no history of dental manoeuvres and their results; 12 (28.6%) were positive for HCV RNA and 30 (71.4%) were negative .

The difference in the presence of HCV RNA according to history of dental manoeuvres, was statistically significant ($P < 0.05$) .

8- Results according to history of blood transfusion :-

Table (23): HCV RNA test reactivity versus history of blood transfusion in the studied group .

HCV RNA / Blood Transfusion	HCV RNA +ve Individuals		HCV RNA-ve Individuals		Total	
	No	%	No	%	No	%
- Present	1	33.3	2	66.7	3	100.0
- Absent	29	40.3	43	59.7	72	100.0
Total	30	40.0	45	60.0	75	100.0

$X^2 = 6.058$ $P > 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 3 individuals had history of blood transfusion and their results; only one (33.3%) were positive for HCV RNA and 2 (66.7 %) were negative.
- 72 individuals had no history of blood transfusion and their results ; 29 (40.3%) were positive for HCV RNA and 43 (5907%) were negative

The difference in the presence of HCV RNA according to history of blood transfusion, was statistically insignificant (P> 0.05) .

9- Results according to history of Schistosomiasis :-

Table (24): HCV RNA test reactivity versus the history of Schistosmiasis in the studied group.

HCV RNA / *Schistosomiasis*	*HCV RNA+ve Individuals*		*HCV RNA-ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Present	23	51.1	22	48.9	45	100.0
- Absent	7	23.3	23	76.7	30	100.0
Total	30	40.0	45	60.0	75	100.0

$X^2 = 5.787$ $P < 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 45 individuals had history of Schistosomaiasis and their results; 23 (51.1%) were positive for HCV RNA and 22 (48.9%) were negative .
-30 individuals had no history of Schistosomiasis and their results; 7 (23.3 %) were positive for HCV RNA and 23 (76.7%) were negative.

The difference in the presence of HCV RNA according to history of Schistosomiasis, was statistically significant ($P < 0.05$).

10 - Results according to detection of Schistosoma antibodies by IHA test :-

Table (25): HCV RNA test reactivity versus the detection of Schistosoma antibodies results by IHA test in the studied group .

HCV RNA / *IHA test*	*HCV RNA+ve Individuals*		*HCV RNA-ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Positive	12	48.0	13	52.0	25	100.0
- Negative	18	36.0	32	64.0	50	100.0
Total	30	40.0	45	60.0	75	100.0

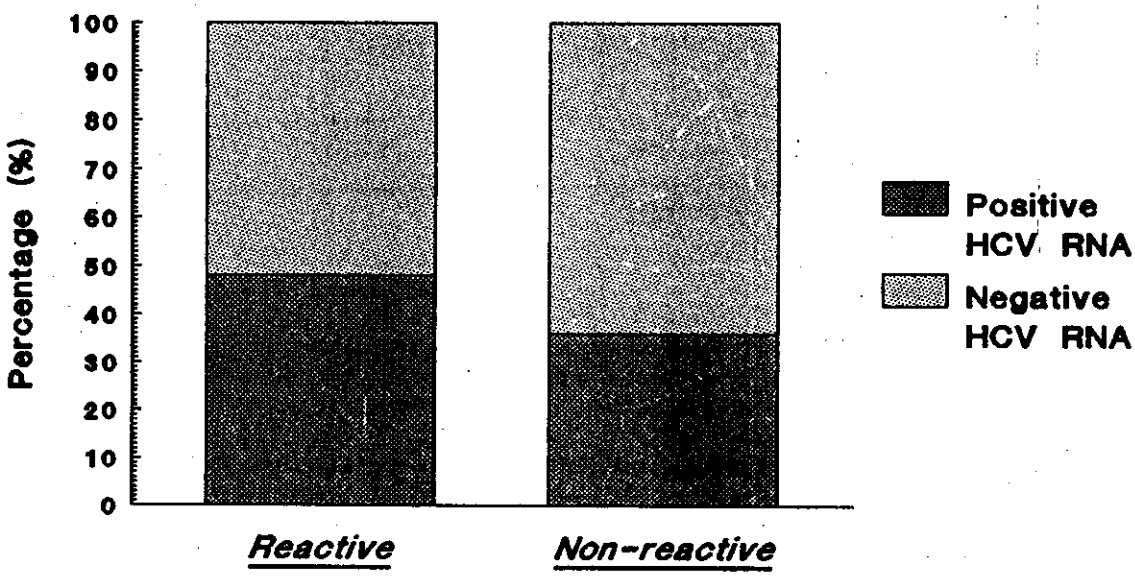
$X^2 = 0.893$ $P > 0.05$

Out of 75 individuals (the studied group), the present study revealed that :

- 25 sera were reactive for Schistosoma antibodies and 12 (48%) of them were positive for HCV RNA .
- 50 sera were negative for Schistosoma antibodies and 18 (36%) of them were positive for HCV RNA .

The difference in the presence of HCV RNA according to the derection of Schistosoma antibodies results by IHA test, was statistically insignificant
($P > 0.05$).

Fig.(10):Prevalence of HCV RNA in the stud. group according to schistosoma ab.



Reslts of Schistosoma ab.

11- Results according to determination of AST levels :-

Table (26): HCV RNA test reactivity versus the results of AST levels in the studied group :

HCV RNA / *AST*	*HCV RNA+ve individuals*		*HCV RNA-ve Individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Normal	22	25.9	148	74.1	57	100.0
- Elevated	3	33.3	16	66.7	9	100.0
- Double elevated	5	55.6	9	44.4	9	100.0
Total	30	40.0	45	60.0	75	100.0

$X^2 = 3.448$ $P > 0.05$

Out of 75 sera of (the studied group), the present study revealed that :

- 57 sera were normal AST level and 22 (25.9%) of them were positive for HCV RNA
- 9 sera were elevated AST level and 3 (33.3%) of them were positive for HCV RNA .
- 9 sera were double elevated AST levels and 5 (55.6%) of them were positive for HCV RNA

The difference in the presence of HCV RNA according to AST levels was statistically insignificant ($P > 0.05$) .

12- Results according to determination of ALT levels :-

Table (27): HCV RNA test reactivity versus the results of ALT levels in the studied group :

HCV RNA / *ALT*	*HCV RNA +ve Individuals*		*HCV RNA -ve individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Normal	16	34.0	31	66.0	47	100.0
- Elevated	2	16.7	10	83.3	12	100.0
- Double elevated	12	75.0	4	25.0	16	100.0
Total	30	40.0	45	60.0	75	100.0

$X^2 = 19.061$ $P < 0.05$

Out of 75 sera of (the studied group) , the present study revealed that :

- 47 sera were normal ALT level and 16 (34%) of them were positive for HCV RNA
- 12 sera were elevated ALT level and 2 (16.7%) of them were positive for HCV RNA .
- 16 sera were double elevated ALT levels and 12 (75%) of them were positive for HCV RNA .

The difference in the presence of HCV RNA according to ALT levels was statistically significant ($P < 0.05$).

13- Results according to elevation of both AST & ALT levels :

Table (28): HCV RNA test reactivity versus AST & ALT levels in the studied group .

HCV RNA / *AST & ALT*	*HCV RNA +ve individuals*		*HCV RNA -ve individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
- Normal both enzymes	12	36.4	21	69.4	33	100.0
- Elevated AST only	4	40.0	6	60.0	10	100.0
- Elevated ALT only	10	41.7	14	58.3	24	100.0
- Elevated both enzymes.	4	50.0	4	50.0	8	100.0
Total	30	40.0	173	60.0	75	100.0

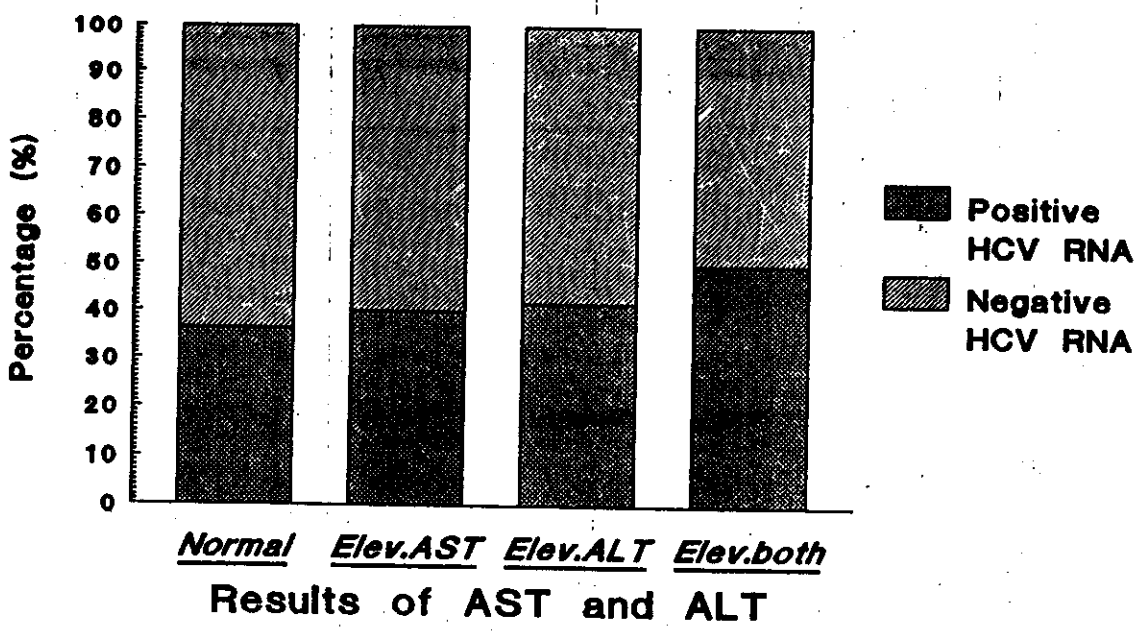
$X^2 = 7.7.53$ $P < 0.05$

Out of 75 sera of (the studied group) , the present study revealed that :

- 33 sera were normal levels for both AST and ALT level and 12 (36.4%) of them were positive for HCV RNA .
- 10 sera were elevated AST level and 4 (40.0%) of them were positive for HCV RNA .
- 24 sera were elevated ALT levels and 10 (41.7%) of them were positive for HCV RNA.
- 8 sera were elevated both enzymes and 4 (50%)of them were positive for HCV RNA .

The difference in the presence of HCV RNA according to both AST and ALT levels, was statistically significant ($P < 0.05$) .

Fig.(11): Prevalence of HCV RNA in the stud. group accord. to AST & ALT levels



D) Relation between HCV antibody and HCV RNA :

Table (29) : Comparison between ELISA and PCR in diagnosis of HCV infection.

HCV RNA / *ELISA*	*HCV RNA +ve individuals*		*HCV RNA -ve individuals*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
Positive	28	93.3	29	64.4	57	76.0
Negative	2	6.7	16	35.6	18	24.0
Total	30	100.0	45	100.0	75	100.0

Sensitivity = 93.3 %

Specificity = 35.6 %

This table shows that the percentage of the ability of ELISA test to detect the truly positive individuals (sensitivity) was 93.3% and the percentage of the ability of ELISA test to detect the truly negative individuals (specificity) was 35.6% .

E) Relation between determinants of HCV genotypes and HCVRNA:

Table (30): Genotypes of HCV in 20 randomly selected sera out of the 30 positive HCV RNA cases .

Distribution / *Genotype*	*No*	*%*
- Type 4	12	60
- Type 4 subtype c & d	4	20
- Type 4 subtype h	1	5
- Type 4 subtype e	1	5
- Type 4 subtype a	1	5
- Mixed type 4a & 1a	1	5
Total	20	100.0

Out of 30 sera positive for HCV RNA (28 sera out of the 57 positive HCV antibody sera and 2 sera were out of the randomly selected 18 negative HCV antibody sera); genotyping was done for 20 sera. Out of 20 positive HCV RNA;12 (60%) were type 4, 4 (20%) were type 4 subtype c and d, 1 (5%) type 4 subtype h, 1 (5%) type 4 subtype e, 1 type 4 subtype a, and only one (5%) was mixed type 4 subtype a with type 1a .